Amendment Under 37 C.F.R. § 1.111

U.S. Appln. No.: 10/827,340

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the

application:

LISTING OF CLAIMS:

1. (Currently Amended) A headlamp for a vehicle, which forms a light distribution

pattern having a horizontal cutoff line on an upper end, comprising: a plurality of first light

irradiation units that form the horizontal cutoff line by light, each of the first lighting light

irradiation units including, comprising:

a first light source formed by a first semiconductor light emitting unit having a first

substantially rectangular light emitting chip and facing forward such that one side of the first

light emitting chip extends in a horizontal direction; and

a first projection lens located in front of the first light source and serving to project an

image of the first light source as an inverted image forward from the lighting unit respective first

light irradiation units.

2. (Currently Amended) The headlamp according to claim 1, wherein the first

substantially rectangular light emitting chip of the first light source is relatively long in a

horizontal direction.

2

Amendment Under 37 C.F.R. § 1.111

U.S. Appln. No.: 10/827,340

3. (Currently Amended) The headlamp according to claim 1, further comprising a plurality of second light irradiation units that form an oblique cutoff line that rises from the horizontal cutoff line at an angle, each of the second lighting light irradiation units including, comprising:

a second light source formed by a second semiconductor light emitting unit having a second substantially rectangular light emitting chip and facing forward such that one side of the second light emitting chip extends in an inclined direction at the angle with respect to a the horizontal direction; and

a second projection lens positioned in front of the second light source and serving to project an image of the second light source as an inverted image forward from the lighting unit respective second light irradiation units.

- 4. (Currently Amended) The headlamp according to claim 3, wherein a shape of the second light emitting chip of the second light source is substantially rectangular and extends relatively long in the inclined direction at the angle.
- 5. (Currently Amended) A headlamp which forms, on an upper end, a light distribution pattern having an oblique cutoff line extended at an angle with respect to a horizontal direction,

Amendment Under 37 C.F.R. § 1.111

U.S. Appln. No.: 10/827,340

comprising: a plurality of light irradiation units that form the oblique cutoff line, each of the

lighting light irradiation units including, comprising:

a light source formed by a semiconductor light emitting unit having a substantially

rectangular light emitting chip and provided to face forward such that one side of the light

emitting chip is extended in an inclined direction at the angle with respect to the horizontal

direction; and

a projection lens positioned in front of the light source and serving to project an image of

the light source as an inverted image forward from the lighting unit respective light irradiation

units.

6. (Currently Amended) A headlamp for forming a light distribution pattern, comprising:

a first lighting system including, comprising:

at least one first light emitting unit that is substantially rectangular and faces forward, and

is shifted with respect to an optical axis of the headlamp; and

at least one corresponding first projection lens that projects an image of light generated

by said at least one first light emitting unit, wherein:

a center of the at least one first light emitting unit is shifted away from an optical axis of

the at least one corresponding first projection lens; and

said image is substantially inverted.

4

Amendment Under 37 C.F.R. § 1.111

U.S. Appln. No.: 10/827,340

7. (Currently Amended) The headlamp of claim 6, wherein further comprising a plurality of said at least one first light emitting unit comprises units and a plurality of said at least one corresponding first projection lenses, wherein:

a first type one of the at least one first light emitting unit having units has a first focal length with respect to a first one of the at least one corresponding first corresponding projection lens lenses; and

a second type one of the at least one first light emitting unit having units has a second focal length with respect to a second one of the at least one corresponding first corresponding projection lens lenses, wherein; and

said first focal length is greater than said second focal length.

- 8. (Original) The headlamp of claim 6, further comprising a lens cover that is translucent.
- 9. (Currently Amended) The headlamp of claim 6, wherein said at least one first light emitting unit is shifted by at least one of (a) being inclined at an angle with respect to a horizontal direction, and; or (b) being positioned rightward to one side and upward from said optical axis.

Amendment Under 37 C.F.R. § 1.111

U.S. Appln. No.: 10/827,340

10. (Original) The headlamp of claim 6, wherein said angle is about 15 degrees.

11. (Currently Amended) The headlamp of claim 6, further comprising a second lighting

system the includes comprising:

at least one second light emitting unit that is substantially rectangular and faces forward,

and is shifted upward and is in-line with said optical axis;; and

at least one second corresponding projection lens that projects substantially inverted light

generated by said at least one second light emitting unit,

wherein a center of the at least one second light emitting unit is shifted upward from an

optical axis of the at least one second corresponding projection lens.

12. (Currently Amended) The headlamp of claim 11, further comprising a lens cover

having a plurality of vertically striped diffusing lens units adjacent to the at least one

corresponding second projection lens of said second light system.

13. (Original) The headlamp of claim 11, wherein said first lighting system is positioned

below said second lighting system in said headlamp.

6

Amendment Under 37 C.F.R. § 1.111

U.S. Appln. No.: 10/827,340

14. (Original) The headlamp of claim 11, further comprising a third lighting system comprising:

at least one third light emitting unit that is substantially rectangular and faces forward, and is shifted upward and rightward with respect to said optical axis,; and

at least one corresponding third projection lens that projects substantially inverted light generated by said at least one third light emitting unit, wherein:

a center of the at least one third light emitting unit is shifted upward and to one side of an optical axis of the at least one corresponding third projection lens; and

said at least one first light emitting unit of said first lighting system is inclined at an angle with respect to a horizontal direction.

- 15. (Original) The headlamp of claim 14, wherein said third lighting system is vertically positioned below the first lighting system, which is positioned below the second lighting system.
 - 16. (Original) The headlamp of claim 14, wherein said angle is about 15 degrees.
- 17. (Original) The headlamp of claim 14, further comprising a plurality of each of said at least one first, second and third light emitting units and a plurality of said at least one corresponding first, second and third projection lenses, wherein:

Amendment Under 37 C.F.R. § 1.111

U.S. Appln. No.: 10/827,340

a first type one of the at least one first light emitting unit in said first lighting system

having units has a first focal length with respect to a first one of the at least one corresponding

first projection lens lenses;

a second type one of the at least one first light emitting unit in said first lighting system having units has a second focal length with respect to a second one of the at least one corresponding first projection lens lenses;

a first type one of the at least one second light emitting unit in said second lighting system having units has a third focal length with respect to a first one of the at least one corresponding second projection lens lenses;

a second type one of the at least one second light emitting unit in said second lighting system having units has a fourth focal length with respect to a second one of the at least one corresponding second projection lens lenses; and

<u>a first one of</u> the at least one third light emitting unit in said third lighting system having units has a fifth focal length with respect to <u>a first one of</u> the at least one corresponding third projection lens lenses,

wherein said first focal length is greater than said second focal length, said third focal length is greater than said fourth focal length, and said fifth focal length is less than any of said first through fourth focal lengths.

Amendment Under 37 C.F.R. § 1.111

U.S. Appln. No.: 10/827,340

18. (New) The headlamp according to claim 1, wherein a center of the first substantially rectangular light emitting chip is shifted away from an optical axis of the first projection lens.

19. (New) The headlamp according to claim 18, wherein the optical axis of the first projection lens does not pass through the first substantially rectangular light emitting chip.

20. (New) The headlamp according to claim 1, wherein the first projection lens is planoconvex.